

Abstract

A pressure transducer has an output characterized by two or more slopes. A pressure transducer generates an first output signal that may be linearly proportional to the sensed pressure. The pressure transducer includes an electrical circuit that shapes the first output signal to produce a shaped output signal that according to a first function of the first output signal when the first output signal is less than the first value and according to a second function of the first output signal when the first output signal is greater than a second value. Preferably, the shaped output signal is a dual slope signal such that the shaped output signal has a first linear portion characterized by a first slope and a second linear portion characterized by a second slope. The two linear portions of the shaped output signal may intersect at a knee point which corresponds to a pressure between two preferred desired pressure ranges. Preferably, the knee point corresponds to a sensed pressure that is approximately 10 percent of the maximum pressure sensed by the device. The higher slope may correspond to lower measured pressures and the lower slope may correspond to higher measured pressures. Preferably, the higher slope is high enough that even in low output voltage ranges, the shaped output signal can be resolved by an analog-to-digital converter to a desired degree of precision. Preferably, the total range of the output voltage is the same as the total range of the first output voltage.

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